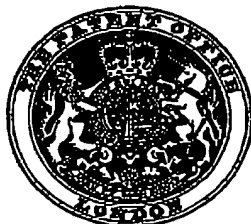


PATENT SPECIFICATION

992,417

DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Improvements in or relating to Hair Curl Clamps.

I, GIOVANNI LONGHINI, an Italian citizen, of 39, Via Bernardino Verro, Milan, Italy, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is performed, to be particularly described in and by the following statement:—

This invention relates to hair curl clamps of the type (hereinafter referred to as "the type specified") comprising a pair of pivoted arms which are spring-biased to a closed position, each arm including a handle and a clamping portion.

Many different types of hair curl clamps are used for holding curls, locks and waves in place. Such devices usually comprise generally a pair of arms pivotally connected at some point along their length and acted on by a spring or springs to bias the arms to a closed position, the pivoting point subdividing the arms into two parts, one of which engages with the hair while the other part is operated by the person using it. Such clamps are high in price and, the pivoting arrangement often gives rise to trouble which may go so far as to cause the arms to come apart and the clamps to be put out of use. When the clamping portions are made of plastics material, a separate pivoting pin must always be provided; the assembly of this pin requires a special operation which increases the price of the article.

The invention embodied herein has as its object to provide a hair curl clamp which avoids the disadvantages referred to above.

According to the present invention there is provided a hair curl clamp of the type specified wherein said pivoted arms are formed of resilient moulded plastics material, each arm being integrally formed with a handle, clamping portion and side walls, one of said arms having co-axial pivot forming pins sidewardly protruding from its side

walls, and the other arm having side walls spaced apart for rockingly positioning of the side walls of first arm therebetween, bearing-forming openings in said side walls for rotatably seating pivot pins therein, said opening being elongated from the pivotal axis of said arms to the outer surface of said other arm at substantially right angles therewith.

Advantageously the thickness of the walls tapers at the base of the openings themselves where said openings coincide with the side of engaging means incorporated in the clamping portions.

One embodiment of the invention will now be described by way of example, with reference to the accompanying drawings in which:—

Fig. 1 is a side view of the hair curl clamp.

Fig. 2 is a cross section view of the hair curl clamp shown in Fig. 1, taken along the line X—X, and

Fig. 3 is a partial view from below in an enlarged scale drawing of the hair curl clamp.

Referring to the drawings the hair curl clamp A comprises two arms B—C pivoted at D, each arm having at one end a handle portion 10—12 which is located at one side of pivot D, and an elongated clamping portion 14—16 tapered towards the ends 18—20. The arms B—C are each provided with a longitudinal stiffening rib 22—24 and the inner surfaces 26—28 are formed with a plurality of rows of parallel teeth 30—32 between which the hair is pressed when the clamp A is in its closed position as shown.

The stiffening rib 22—24 tapers towards the free ends of the clamping portions and has its greatest thickness near to the pivoted axis of the arms.

Pivoting at D of the two arms with respect to each other as provided by a member F integral with arm C, as well as mem-

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bar G integral with arm B to form together engaging means.

Each of these members F, G, is formed with walls 34—34', 36—36' and 38—38', of which walls 34—34' blend into the clamping portion, walls 36', 38' carry the pivot pins, and walls 36—38 and formed with the elongated openings seating the pivot pins.

The width of engaging member F is greater than that of engaging member G so that engaging member G fits inside of engaging member F for pivoting the arms with respect to each other. Pivot pins 40—42 are formed to protrude beyond walls 36'—38'. Such members are lined up with one another and are slipped inside the elongated openings 44—46 formed in walls 36—38 of engaging member F, said openings are parallel to one another and extend with decreasing thickness until reaching ends 48—50, at which ends the thicknesses of walls 36—38 is at its thinnest, for the purpose of assisting in the moulding i.e. to avoid creating any undercut draft areas which would be difficult to remove and cause difficulty in removing member C from its mould after forming.

Hair clamp A is completed, by a member H, consisting of a resilient U bent strip the ends of which 13—15 are inserted in notches or cuts made for them or, said ends engage bosses extending from the inside surfaces 17—19 of the handle portion 10—12.

The U bent strip is formed with a bent middle portion of semi-cylindrical shape and arranged co-axially to the pivotal axis of the arms to bias the clamping portions against each other and maintaining the pivot forming pin parts at the bottom of the elongated openings to define therein the pivotal axis.

The hair clamp is assembled by simply inserting engaging member G in engaging member F until pivot pins 40—42 snap in place inside opening 44—46 after which spring H is placed in position (which spring, instead of being a strip or leaf could also be spiral or coil shaped.)

Spring H reacts between the areas 10—12 so that the opposite branches of said spring, acting at 13 and 15 tend to cause the arms B—C to rotate in the directions Z—Z' about pins 40—42.

It is apparent that the user, by compress-

sing together the handle portions 10—12 and counter-acting the action of spring H, causes the clamping portion to rotate in the direction opposite to that shown by arrows Z—Z' opening the hair grip and separating the clamping portions 14—16 from one another while the toothings 30—32 releases its grip on the hair.

WHAT I CLAIM IS:—

1. A hair curl clamp of the type specified wherein said pivoted arms are formed of resilient moulded plastics material, each arm being integrally formed with a handle, clamping portion and side walls, one of said arms having co-axial pivot forming pins sidewardly protruding from its side walls, and the other arm having side walls spaced apart for rockingly positioning of the side walls of first arm therebetween, bearing-forming openings in said side walls for rotatably seating pivot pins therein, said openings being elongated from the pivotal axis of said arms to the outer surface of said other arm at substantially right angles therewith.

2. A hair curl clamp according to claim 1 wherein a U-shaped strip spring arranged between said handle portions, outwardly resiliently urging thereon, and having a bent middle portion of semi-cylindrical shape and arranged co-axially to said pivotal axis to bias said clamping portions against each other and maintaining said pivot forming pin parts at the bottom of said elongated openings to define therein said pivotal axis.

3. A hair curl clamp according to claims 1 and 2, wherein said clamping portions have stiffening ribs longitudinally arranged and integrally formed on their outer faces, said ribs having their greatest thickness near to the said pivotal axis and tapering towards the free ends of said clamping portions.

4. A hair curl clamp substantially as herein described with reference to the accompanying drawing.

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992417 COMPLETE SPECIFICATION

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***This drawing is a reproduction of
the Original on a reduced scale***

